HITACHI

USERS GUIDE

WIRELESS NETWORK MODULE

WNM80

HITACHI

Before You Get Started

Safety Precautions

The following safety icons are used throughout this WNM80 user guide to alert you to situations that could result in personal injury and physical damage. Please make sure that you understand the warnings, cautions and restrictions associated with these icons before reading the remainder of this user guide.

⚠ WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠ CAUTION	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or physical damage.

⃠ Indicates a forbidden operation.

⚠ WARNING

■SHOULD SOMETHING ABNORMAL OCCUR

- ●Continuing to use the WNM80 when there is an abnormal condition such as smoke, an abnormal smell or an abnormal noise, MAY RESULT IN FIRE AND/OR ELECTRIC SHOCK! Should anything abnormal occur, turn off the power of the projector (that the WNM80 module is mounted to) and unplug the power cord from the outlet. After making sure that there is no more smoke (as the case may be), ask your dealer to repair your WNM80 module. UNDER NO CIRCUMSTANCES WHATSOEVER SHOULD YOU ATTEMPT TO REPAIR THE WNM80 MODULE YOURSELF!
- ●In the event that water or other liquid should get spilled on or in some other way get inside the WNM80 module, turn off the power of the projector (that the WNM80 module is mounted to), unplug the power cord from the outlet and contact your dealer. CONTINUED USE MAY RESULT IN FIRE AND/OR ELECTRIC SHOCK!

■DO NOT ALTER THE WNM80 MODULE IN ANY WAY!
ALTERING THE WNM80 MAY RESULT IN FIRE AND/OR ELECTRIC SHOCK!

■DO NOT EXPOSE THE WNM80 MODULE TO IMPACT!
In the event that you should drop the WNM80 module or damage its cabinet, turn off the power of the projector (that the WNM80 module is mounted to), unplug the power cord from the outlet and contact your dealer. CONTINUED USE MAY RESULT IN FIRE AND/OR ELECTRIC SHOCK!

⚠ WARNING

■DO NOT INSERT FOREIGN OBJECTS INTO THE WNM80 MODULE!

- ●Never attempt to insert metallic or flammable objects into to the WNM80 module's PC card slot, connector ports, etc. Such actions may lead to damage to PC cards connectors and MAY RESULT IN FIRE AND/OR ELECTRIC SHOCK!
- ●In the event that a foreign object is inserted into the WNM80 module, turn off the power of the projector (that the WNM80 module is mounted to), unplug the power cord from the outlet and contact your dealer. CONTINUED USE MAY RESULT IN FIRE AND/OR ELECTRIC SHOCK! Households with toddlers and young children should be especially careful.
- ●Never attempt to plug a phone line into the WNM80 module's LAN jack. Connecting a phone line to the LAN jack may lead to failure and/or cause damage and MAY RESULT IN FIRE AND/OR ELECTRIC SHOCK!

■DO NOT ATTEMPT TO CONNECT THE WNM80 MODULE TO UNSUPPORTED PROJECTORS

Hitachi does not guarantee the operation of the WNM80 module if it is connected to unsupported projectors. In addition, connecting the WNM80 to any projector other than for that which it was designed MAY RESULT IN FIRE AND/OR ELECTRIC SHOCK!

■DO NOT DAMAGE, MUTILATE OR FORCIBLY BEND THE POWER CORD!

In addition, do not forcibly pull on the power cord or heat it up. Any such damage to the power cord could result in malfunction and MAY RESULT IN FIRE AND/OR ELECTRIC SHOCK!

■The WNM80 module is an option module designed for use with Hitachi specified projectors only. Please read and follow the instructions in this user guide to ensure that you properly mount the module to the projector. Improper mounting MAY RESULT IN PERSONAL INJURY AND/OR DAMAGE!

■In addition, please heed all the precautions and instructions included in the user guide of the corresponding projector.

⚠ CAUTION

■Only use the accompanying CD-ROM in a computer CD drive.

The CD-ROM is designed for PC use only. NEVER INSERT THE CD-ROM INTO A NON-COMPUTER CD PLAYER! Inserting the CD-ROM into an incompatible CD drive may produce a loud noise, which in turn MAY RESULT IN EAR AND SPEAKER DAMAGE!

Additional Safety Precautions

■The accompanying 802.11b wireless LAN card uses the 2.4GHz radio frequency band. You do not need a radio license to use this card, but you should be aware of the following:

● DO NOT USE NEAR THE FOLLOWING!
- Microwave ovens
- Industrial, scientific or medical devices
- Designated low power radio stations
- Premises radio stations

Using the wireless LAN card near the above may result in radio interference, which in turn may result in a decrease in communication speed and even a complete loss of communication.

● Depending on the location where you attempt to use the wireless LAN card, there may be interference with the radio waves, which may result in a decrease in communication speed and even a complete loss of communication. In particular, please be aware that using the wireless LAN card in locations where there is reinforced steel, other metals and concrete may interfere with radio communication.

● Available Channels
The wireless LAN card uses the 2.4GHz radio frequency band, but depending on the country or region you are in, you might be limited to the channels you can use. Please refer to the following table for confirming where and with what channels you may use the accompanying 802.11b wireless LAN card. Please consult with your dealer for countries not included in the table.

Country or Region	Available Channels
Japan	1 to 11
USA	1 to 11
Taiwan	1 to 11
France	10, 11
Canada	1 to 11
UK, Spain, Germany, Italy, Austria, Switzerland, Belgium, Sweden, Netherlands, Portugal, Denmark, Finland, Greece, Norway	1 to 11

● You may not bring the wireless LAN card into countries not listed above as there is a possibility that use of the wireless LAN card in those countries could lead to an infringement of established radio laws.

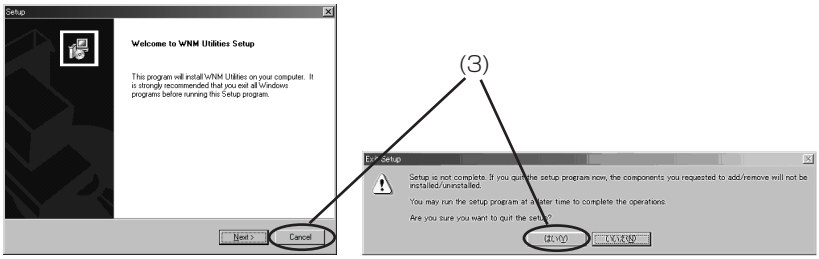
Accessing the User Guide on the CD-ROM

This WNM80 user guide is located in PDF file format on the accompanying CD-ROM and can be viewed on a PC. In order to view the corresponding file, you will first need to install Adobe® Acrobat® Reader® (*1).

• How to Install Adobe® Acrobat® Reader®

The installation program for Adobe® Acrobat® Reader® is located in the accompanying CD-ROM. Follow the below instructions to install Adobe® Acrobat® Reader® on a PC:

(1) Turn on the PC.
(2) Insert the accompanying CD-ROM into the PC's CD-ROM drive.
(3) After a moment, the [Welcome to WNM Utilities Setup] dialog will appear as shown below. Press [Cancel]. After that an [Exit Setup] dialog will appear. Press [Yes].


Setup
Welcome to WNM Utilities Setup
This program will install WNM Utilities on your computer. It is strongly recommended that you exit all Windows programs before running this Setup program.
Next >
Cancel
(3)
Exit Setup
Setup is not complete. If you quit the setup program now, the components you requested to add/remove will not be installed/uninstalled.
You may run the setup program at a later time to complete the operations.
Are you sure you want to quit the setup?

(4) Open up Windows® Explorer® (or other file viewer application). Select the drive where you inserted the CD-ROM, right click on the corresponding drive and then select [Open] from the menu.
(5) Choose [ACROBAT] > [English] > AcroReader51_ENU.exe to begin the installation. Follow the instructions in the installation program to complete the installation.

To view the user guide:

(1) Open Adobe® Acrobat® Reader®.
(2) Choose [File] > [Open] and then select the drive where the CD-ROM is located.
(3) Choose [Manual] > [English] > WNM80 manual en.pdf and then press [Open].
(4) The user guide is displayed.

(*1) Minimum PC Specifications for Using the Accompanying CD-ROM

- OS: Windows 98, Windows 98SE, Windows Me, Windows 2000 Professional, Windows XP
- Graphic Interface: DirectX 6.1a or higher; Video RAM 4MB or higher (8MB recommended)
- CPU: Pentium III (600MHz or higher recommended)
- Display: VGA 640x480 or higher (XGA 1024x768 recommended) 65,536 simultaneous colors or higher
- Memory: 64MB or higher (128MB or higher if using Windows XP)
- Available Hard Disk Space: 10MB or higher
- Web browser: Internet Explorer® (4.0 or higher) or Netscape Communicator® 4.5X, 4.7X, etc.
- CD-ROM drive

IMPORTANT: PLEASE READ BEFORE OPENING OR USING THE ACCOMPANYING SOFTWARE!

END USER LICENSE AGREEMENT

YOU SHOULD CAREFULLY READ THE FOLLOWING TERMS AND CONDITIONS BEFORE OPENING OR USING THE CD-ROM THAT CAME WITH YOUR WNM80 WIRELESS NETWORK MODULE.
IT CONTAINS SOFTWARE, THE USE OF WHICH IS LICENSED BY HITACHI TO ITS CUSTOMERS FOR THEIR USE ONLY AS SET FORTH BELOW.
OPENING THE CD-ROM OR USING ANY PART OF THE SOFTWARE INDICATES THAT YOU ACCEPT THESE TERMS. IF YOU DO NOT AGREE TO THE TERMS AND CONDITIONS OF THIS AGREEMENT, RETURN THE UNOPENED AND UNUSED CD-ROM TO THE DEALER WHERE YOU OBTAINED IT.

1. DEFINITIONS

"Hitachi" means Hitachi, Ltd.
"Software" means all the files contained on the CD-ROM packaged with the WNM80 wireless network module.

2. LICENSE

Hitachi grants you a nonexclusive license to use the accompanying Software on any computers (including servers) connected to the WNM80 wireless network module you purchased.

3. COPYING

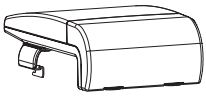
Copying, duplication or reproduction of the Software in part or whole is expressly prohibited, except for making a backup copy. However, the Liveviewer.exe program is exempt from this restriction.

4. MODIFICATION

You may not modify, reverse engineer, decompile or disassemble the Software for any reason.

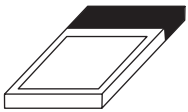
What's in the Box

Make sure that all of the following items were included in your WNM80 wireless network module package. Contact your dealer if anything is missing:

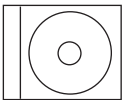


Wireless network module

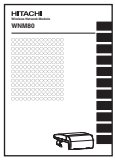
Locking screws



Wireless LAN card



CD-ROM



Before You Get Started
(this manual)

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- Windows is a registered trademark of Microsoft Corporation.
- All other trademarks are the property of their respective owners.

HITACHI

Wireless Network Module

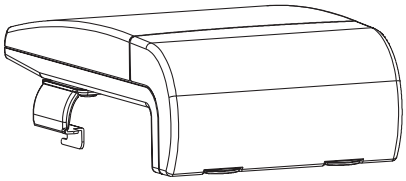
WNM80

User Guide

Thank you for purchasing the WNM80 wireless network module from Hitachi.

Please read this manual thoroughly to ensure proper and safe use of your new wireless network module. Keep this manual in a safe place for future reference.

NOTE • The information in this manual is subject to change without notice.
• The manufacturer assumes no responsibility for any errors that may appear in this manual
• The reproduction, transmission or use of this document or contents is not permitted without express written authority.



TRADEMARK ACKNOWLEDGEMENT :
- PS/2, VGA and XGA are registered trademarks of the International Business Machines Corporation.
- VESA and SVGA are trademarks of the Video Electronics Standard Association.
- Windows is a registered trademark of Microsoft Corporation.
- All other trademarks are the property of their respective owners.

Summary

The WNM80 wireless network module attaches to Hitachi's CP-X885, CP-X880 and CP-X870 LCD projectors and enables users to make presentations using multiple PCs in a cable-free environment.

Features

(1) Cable-Free Presentations

Wireless presentations made possible by use of a wireless LAN card.

(2) Multiple Screens

Images from up to four PCs can be presented simultaneously via the same projector.

(3) Stand Alone Presentations

Now you can leave your PC behind and run stand alone presentations with just a memory card (sold separately).

(4) Remote Control via Your Web Browser

Now you can use your Web browser to remote control the projector.

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Introduction

Functions

The WNM80 wireless network module is equipped with the latest network functions. You can use the WNM80 module in combination with Hitachi's CP-X885, CP-X880 and CP-X870 LCD projectors to make presentations that draw on the power of your network. In addition, the wireless LAN card (*1) allows you to connect the WNM80 module to your network without the need to connect any annoying LAN cables.

(*1): Please use the wireless LAN card that came with your WNM80.

<Major Functions>

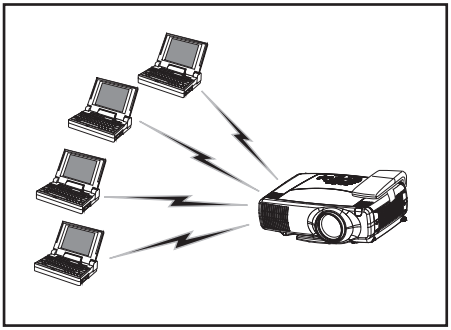
1. Live Mode

The WNM80 module gives you the power to present PowerPoint® and other presentations with ease and in a cable-free environment.

Get your computer ready to go! Using the WNM80 module with PCs that are equipped with the latest wireless LAN functions allow you to project images from your PC in real time (*2) using wireless transmission to project a large screen with the same feel as a live broadcast.

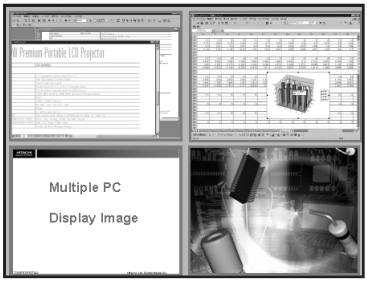
No more annoying cables! Not only that, but you can project presentations from multiple computers at the same! In addition, you can now project a presentation from one computer to multiple projectors.

(*2): This will depend on the type of images you are attempting to display. Images are refreshed at a rate of every one to four seconds. Therefore, you might not be able to project extremely dynamic images such as animation very smoothly, and, in some cases, you may not be able to project them at all.

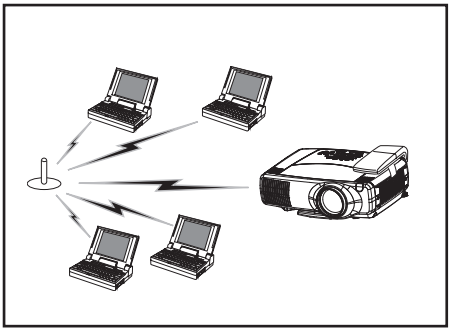


Office meetings at a snap of the fingers!

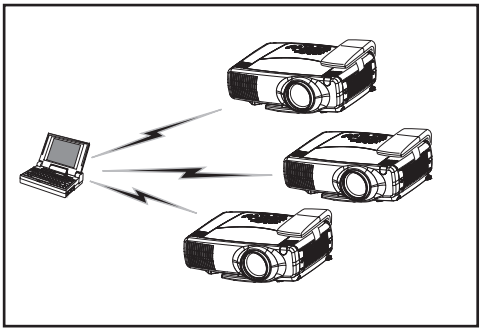
Example of a Multiple Screen



Up to four PC screens can be displayed at the same time.



Meetings in a wireless environment!



In your showroom or at a convention hall

2. Playback Mode

Images transmitted to the projector in Live Mode can be replayed from the projector side (*3). You can also send images to the projector from the PC in advance (*4).
Regardless of the method chosen, you can select the image you wish to display or even select multiple images for consecutive playback by viewing the corresponding thumbnail images stored on the projector side (*5).

(*3): Use the Print Screen key on your PC keyboard to capture images for replay in Playback mode.
(*4): Refer to 23 for detailed information on how to use FileViewer.
(*5): Refer to 20 for detailed information on how to use ImageViewer.

3. PC-less Presentation Mode (*6)

In order to use PC-less Presentation Mode, you need to store your presentation data (*7) into a memory card (*8). Next, insert the memory card into the projector and you are all ready to make a presentation with just the projector. No need for a PC! The presentation is played just as described in Playback Mode.

(*6): Since there is only one card slot, you can't use the wireless LAN card when in this mode.
(*7): You can only use still image files of the following extensions: .jpg, .bmp and .png.
(*8): You can use any of the following types of memory cards:
PCMCIA compliant memory card
CF memory card (dedicated PCMCIA adaptor required)
SD card (dedicated PCMCIA adaptor required)
Memory Stick (dedicated PCMCIA adaptor required)
HDD card (ATA compatible; less than 2GB) (IDE compatible HDD cards can't be used)
Microdrive (dedicated PCMCIA adaptor required; ATA compatible; less than 2GB) (IDE compatible HDD cards can't be used)

NOTE

Only memory cards under 2GB can be used. Memory cards formatted to 2GB or more can't be used. Reformat memory cards to under 2GB as necessary. (Refer to your memory card user guide for details.)

4. Remote Control Mode

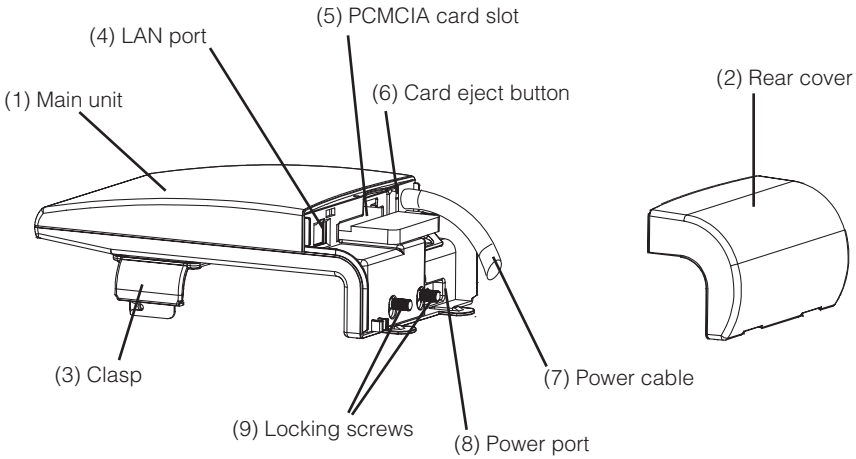
The WNM80 incorporates the latest LAN functions, enabling you to not only make presentations, but also control the projector using a control panel that you interface to using your Web browser. Remote control functions available include, turning the projector's power on and off, and selecting between image sources.
This feature also provides you with such information as when the projector's lamp needs to be replaced. Even if the projector is located in an office room away from your current location, you can easily operate it via remote control.

If you opt to not to use the wireless LAN card, you can still directly connect your computer using a LAN cable. Be sure to use a cross cable when directly connecting to just one PC. Use a straight cable for connecting to the closest hub of your company LAN.

NOTE

Consult with your network administrator prior to attempting to connect to your company's LAN.

WNM80 Components



The WNM80 wireless network module is composed of its main unit (1) and rear cover (2).

(1) Main unit:
Mounts onto the CP-X885, CP-X880 or CP-X870 model LCD projector.

(2) Rear cover:
Remove this cover when mounting the WNM80 module to a projector and then reattach once the WNM80 module is properly mounted onto the projector.

(3) Clasp:
Use this to secure the WNM80 module in place. Tighten these once the WNM80 module is properly mounted onto the projector.

(4) LAN port:
The port used to connect to a network hub or directly to a PC using a LAN cable. This connection can't be accessed when the wireless LAN card is in use. Remove the wireless LAN card if you wish to use a cable-based LAN connection. (Only one LAN connection at a time is allowed.)

(5) PCMCIA card slot:

(6) Card eject button:
This is the slot for inserting the PCMCIA compatible wireless LAN card or memory cards. Insert cards slowly and carefully into this slot. Use this button to remove a card from the card slot. After pressing this button, slowly remove the card.

(7) Power cable:
Use this cable to connect the module to the projector in order to supply power to the module.

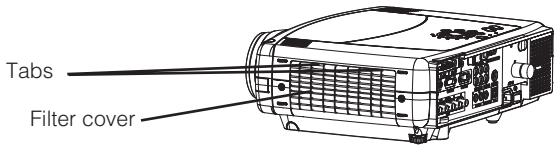
(8) Power port:
Firmly plug the power cable into this port after the module is properly mounted onto the projector.

Attaching the WNM80 Module to the Projector

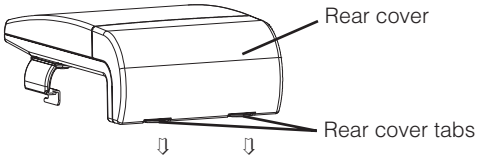
The WNM80 module is designed exclusively for use with Hitachi's CP-X885, CP-X880 and CP-X870 model LCD projectors. Please slowly and carefully follow the below instructions when attempting to mount the WNM80 module onto the projector.

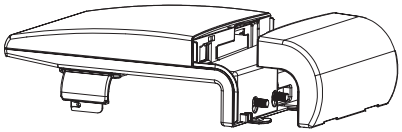
(1) Turn off the projector by turning off its AC power switch.

(2) Remove the projector's filter cover.
Push both of the filter cover tabs down and then pull them to remove the filter cover.

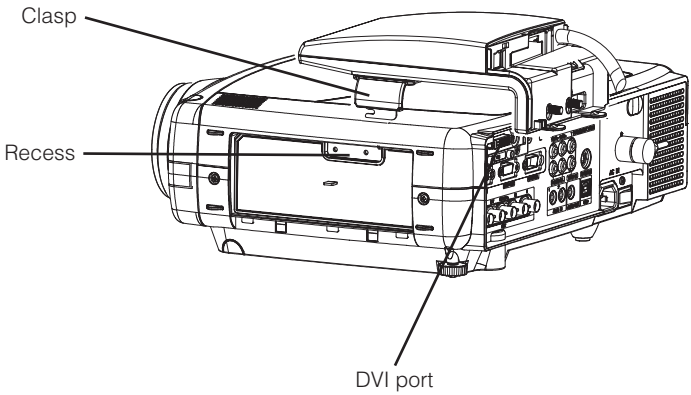


(3) Remove the rear cover of the WNM80 module.
Push the rear cover tabs down and then pull the rear cover to remove it.



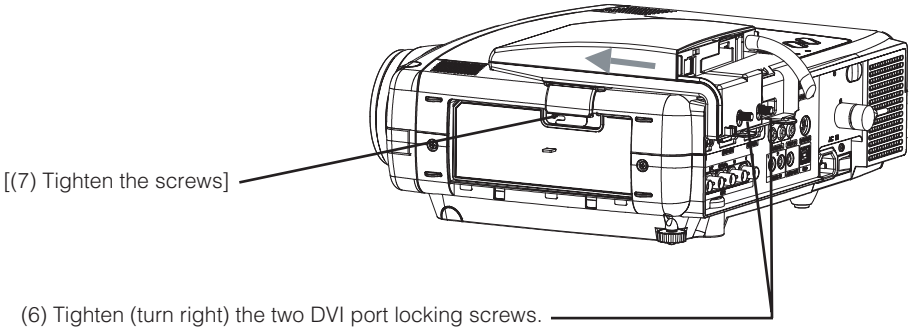


(4) Fit the WNM80 module's clasp into the projector's recess and align the module so that it can connect to the DVI ports on the back of the projector.



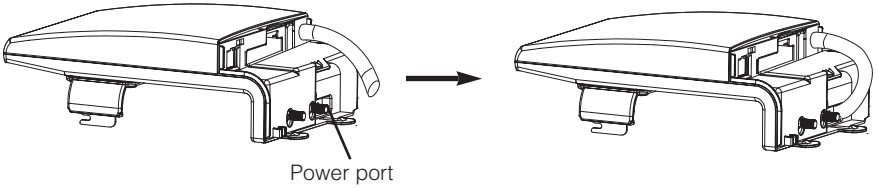
Introduction (continued)

(5) Slowly slide the module into place (in the direction of the arrow). Make sure that the DVI port is correctly aligned. (Please take care not to cause damage to the projector by the clasp.) Insert the two module locking screws into the respective DVI port.

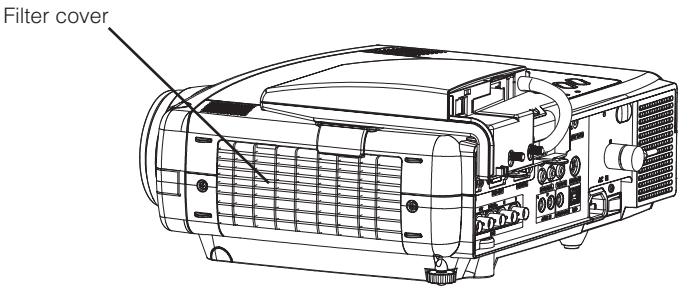


(7) Tighten the clasp to the projector using the accompanying locking screws (M3x8).

(8) Firmly connect the module's power cable to the projector's power port



(9) Reattach the projector's filter cover.



Confirming the Connection to the Projector

Once you have completed mounting the WNM80 module onto the projector, follow the below instructions to make sure that the connection to the projector is working okay. During this confirmation, you will check to see:

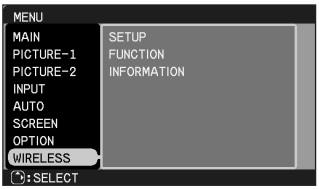
- Whether or not the WNM80 module is correctly recognized when the projector's menu is displayed

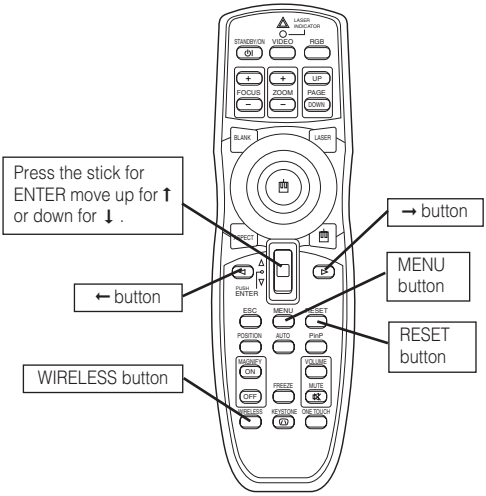
(1) Turn on the projector's power.
(Turn on the projector's AC switch and press the STANDBY button.)

(2) Select DVI using the projector's jog dial button or by pressing the WIRELESS button on the projector's remote control.

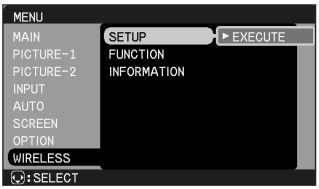
(3) Use the remote control or the projectors operation panel to open the WIRELESS menu (refer to the projector's user guide as necessary):

- Press the MENU button.
- Press the ↓ button until the cursor is over WIRELESS.

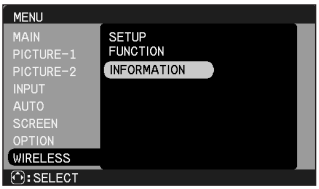




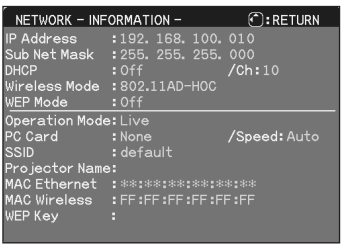
(4) Press the → button.



(5) Press the ↓ button twice.



(6) After a moment, the network information will be displayed as shown below. Confirm the network information.



NOTE

If the information is not displayed, check the connection between the WNM80 module and the projector.

[IP Address:]
A unique numeric address used to identify each network device.
The IP's factory default setting is 192.168.100.10.

NOTE

Please note that even if DHCP is enabled, the displayed address is the IP address that was manually set, not the IP address assigned by the DHCP server.

[Sub Net Mask:]
The network address portion of the IP address.
The factory default is 255.255.255.0.

[DHCP (Dynamic Host Configuration Protocol):]
This setting is used to determine whether to have this device's IP address assigned automatically by the network's DHCP server or to assign the IP address manually (as described above).
The factory default is to leave this setting Off and assign the IP address manually.

[Ch (Channel):]
The wireless LAN (IEEE802.11b) device can communicate on channels 1 to 11. The factory default is channel 10.

[Wireless Mode:]
Sets the communication mode to be used for wireless communication. The factory default setting is 802.11 AD-HOC.

[WEP (Wired Equivalent Privacy):]
An encryption method used for wireless communication. The factory default is "Off," meaning that encryption is not used.

[Operation Mode:Use this to confirm the current operation mode of the WNM80 module.]
Live: The screen appearing on the PC is displayed on the projector.
Play Back: The images stored in the WNM80 module are played.
PC-Less: The WNM80 is ready to execute PC-less Presentation Mode using a memory card.

[PC Card: Displays the type of PC card currently inserted into the WNM80.]

[Speed:]
The wireless communication speed. The factory default is AUTO.

[SSID (Service Set Identity):]
The network group name (also referred to as ESSID).
The same name setting is used for the same network group.
This dialog displays the first 16 characters of the SSID. Please note that some symbols cannot be displayed in this dialog.

[MAC Ethernet: The fixed MAC address of the wired (cable-based) LAN device installed in this device.]

[MAC Wireless: The fixed MAC address of the wireless LAN card inserted in this device.]

[WEP Key: The common encryption key when the WEP (encryption) function is enabled for wireless LAN.]
This is the encryption key used in common by the network group when the WEP (Wired Equivalent Privacy) function is enabled.
When WEP is set to 40bit, this will be 10 hexadecimal characters. When WEP is set to 128bit, the first six characters are set as a dummy header (00:00:00) and the remaining 26 characters (except ":") are the actual WEP key.

Installing the Software

In order to use the WNM80 with a PC for wireless presentations (Live Mode), you will first need to install the accompanying software on all the PCs you will be using.

Minimum PC Hardware and Software Requirements

- OS: Windows 98, Windows 98SE, Windows Me, Windows 2000 Professional, Windows XP
- Graphic Interface: DirectX 6.1a or higher; Video RAM 4MB or higher (8MB recommended)
- CPU: Pentium III (600MHz or higher recommended)
- Display: VGA 640x480 or higher (XGA 1024x768 recommended) 65,536 simultaneous colors or higher

NOTE

If your PC is currently set to a resolution higher than XGA, please change it to XGA.

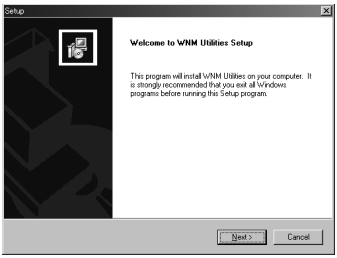
- Memory: 64MB or higher (128MB or higher if using Windows XP)
- Available Hard Disk Space: 10MB or higher
- Web browser: Internet Explorer® (4.0 or higher) or Netscape Communicator® 4.5X, 4.7X, etc.
- CD-ROM drive
- Interface PC card slot (PCMCIA Type-II)
- IEEE802.11b wireless LAN PC card

NOTE

- Not required for PCs with built-in 802.11b wireless LAN
- Depending on the type of wireless LAN card and PC you are using, the WNM80 module may not be able to communicate properly with your PC, even if the PC you are using is equipped with built-in wireless LAN functionality.
  Should communication problems occur, please procure a Wi-Fi certified wireless LAN card.

Software Installation Procedure

1. Turn on the PC.
2. Shut down all applications.
3. Insert the accompanying CD-ROM into the PC's CD-ROM drive.
4. After a moment, the Welcome to WNM Utilities Setup dialog will appear as shown on the right. Press Next.

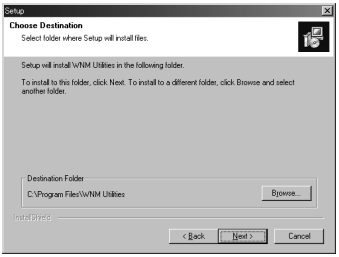

Setup
Welcome to WNM Utilities Setup
This program will install WNM Utilities on your computer. It is strongly recommended that you exit all Windows programs before running this Setup program.
Next >
Cancel

NOTE

If the Welcome to WNM Utilities Setup dialog doesn't appear, proceed as follows:
(1) Click on the Start button on the toolbar and select Run.
(2) Enter E:\software\setup.exe and then press OK.

If your CD-ROM drive is not drive E on your PC, you will need to replace E with the correct drive letter assigned to your CD-ROM drive.

5. The Choose Destination Location dialog appears. Press Next.


Setup
Choose Destination
Select folder where Setup will install files.
Setup will install WNM Utilities in the following folder.
To install to this folder, click Next. To install to a different folder, click Browse and select another folder.
Destination Folder
C:\Program Files\WNM Utilities
Browse...
InstallShield
< Back
Next >
Cancel

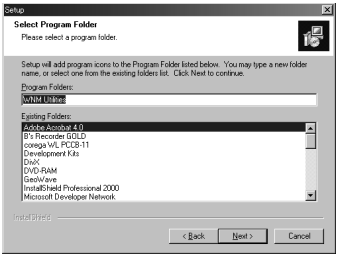
NOTE

- The C:\Program Files\WNM_Utilities folder will be created and the program will be installed into that folder.
- If you wish to install to a different folder, click Browse and select another folder.

6. Confirm the program folder name.

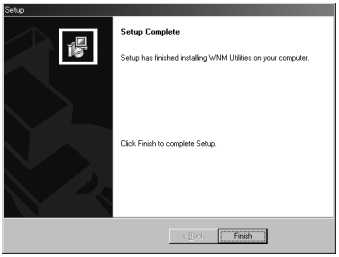
   If WNM_Utilities is okay, press Next to continue.

   If not, enter the desired folder name and then press Next.



7. After a moment, installation will complete and the Setup Complete dialog will appear as shown on the right. Click Finish.

   This completes the software installation.



(1) To confirm that the software as been properly installed, press the Start button on the toolbar, select All Programs and then select the WNM Utilities folder.
(2) WNM LiveViewer and WNM FileViewer will appear in that folder if the installation was successful.

Network Settings

This section explains how to do wireless presentations (Live Mode), how to do presentation playback (Playback Mode) and how to use your Web browser to access the remote control panel.

If your PC is not ready for 802.11b wireless LAN communication, purchase an 802.11b wireless LAN card and install the device driver. (Refer to the corresponding PC and/or LAN card user guide for details.)

<Preparations> (set the PC and the module to the same configurations)

- Configure the PC and WNM80 module for wireless communications. Insert the wireless LAN cards into both the PC and WNM80 module and enable wireless LAN communications.

NOTE

If the PC is already equipped with a built-in 802.11b wireless LAN card, you don't need to insert a new wireless LAN card.

- Next, configure as shown in the following table:

(1) Wireless Settings for the WNM80 Module

- Slowly and carefully insert the accompanying wireless LAN card into the WNM80 module's PC card slot. Be careful not to insert the card too hard as you may bend the connector pins.
- Turn on the power of the projector (that the WNM80 module is mounted to) and then press the STANDBY button to turn on the lamp.
- As explained in the Introduction section of this user guide, bring up the projector's WIRELESS menu and configure the network settings as necessary. Refer to 12 for information on the network configuration method.

(2) Wireless Settings for the PC

PCs with a built-in wireless LAN card

Enable the built-in wireless LAN communications of the PC.
Refer to your PC user guide for details. Continue on 12 for information on how to configure network settings.

PCs using PCMCIA wireless LAN card

If you are using a new wireless LAN card, follow the instructions in the corresponding wireless LAN card user guide to install the card's dedicated driver into your PC.
Insert the wireless LAN card into your PC's card slot.
Continue on 12 for information on how to configure network settings.

NOTE

Consult with your network administrator if there is already a connection to the network

Introduction (continued)

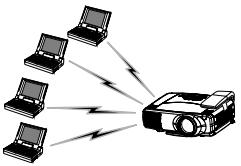
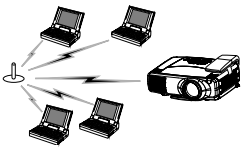
<Network Settings>

- Select the network device (network adaptor) to be used
  - Wired connection using a LAN cable
  - Wireless connection using a wireless LAN card (inserted in PC card slot)
  - Wireless connection using a built-in wireless LAN adaptor

- Protocol to be used: TCP/IP

- Configure the TCP/IP attributes (IP address, Subnet Mask)
  Manual setting/Automatic setting (for networks utilizing a DHCP server function equipped devices)
  If you will be manually setting the TCP/IP attributes, turn the DHCP setting OFF and then configure the settings.

- For more details of the settings, see the table below.

PC and WNM80 Module Connection	Setting	Configuration (Recommend Setting Example)	
		PC/Access point	WNM80 Module
P2P (Peer to Peer) 	IP Address	192.168.100.N *N should be unique (1 to 254)	192.168.100.10 *doesn't need to be 10
	Subnet Mask	255.255.255.0 recommended	255.255.255.0 (same as PC)
	DHCP	OFF (not used)	Same as PC
	Communication Mode	802.11 AD-HOC	Same as PC
	Channel	1 to 11	Same as PC
	Speed	AUTO (or a fixed speed)	Same as PC
	WEP (encryption)	OFF (not used)	Same as PC
	Encryption Key	Unnecessary	Same as PC
	SSID	“default”	Same as PC
	Host Name	Can be set for each PC	Can set the projector name
Local access point 	IP Address	192.168.100.N *N should be unique (1 to 254; including access points)	192.168.100.10 *doesn't need to be 10
	Subnet Mask	255.255.255.0 recommended	255.255.255.0 (same as PC)
	DHCP	OFF (not used)	Same as PC
	Communication Mode	Infrastructure	Same as PC
	Channel	1 to 11	Same as PC
	Speed	AUTO (or a fixed speed)	Same as PC
	WEP (encryption)	OFF (not used)	Same as PC
	Encryption Key	Unnecessary	Same as PC
	SSID	“default”	Same as PC
	Host Name	Can be set for each PC	Can set the projector name
Existing network (via access point)		Consult with your network administrator.	Consult with your network administrator.

[Explanation]

A network address setting is required as you will be connecting the WNM80 module to the PC using the network.

You can choose to manually assign an address to each device or have an DHCP server automatically assign the address.

When configuring the address manually, please use the following setting:

IP address = 192.168.xxx.NNN

<xxx and NNN represent decimals>

Subnet Mask = 255.255.255.0

Be sure to use the same setting for the "xxx" portion of the IP address for both the WNM80 module and PCs.

Then "NNN" portion can be any number from 1 to 254, but be careful so as not to assign the same number to two or more devices connected to the same network.

● If you are attempting a wireless connection, configure the network adaptor attributes as follows (configure all the devices, including the projector that the WNM80 module is mounted to, with the same setting):

❍ Communication Mode

- If you won't be using an access point (Peer to Peer):
  Set to AD-HOC (pseudo ad hoc) or 802.11AD-HOC (depending on the hardware).
- If you will be using an access point:
  Select INFRASTRUCTURE.

❍ Communication Speed: This is normally set to Auto (Full Automatic, et al)

❍ Communication Channel: Depending on the country or region you are in, the channels you can use may vary. Be sure to use the same channel setting for each device.

NOTE

If there is another network nearby, it is best to use a channel that is at least four channels away from the other network.

❍ SSID (network group name): Set the same name for all devices.

❍ Encryption (WEP) Setting

- Disable if you won't be using encryption
- Enable if you will be using encryption by selecting the type of encryption [40(60)bit or 128bit] and configure the encryption key as well (text or hexadecimal)

Refer to your PC user guide and wireless LAN card user guide (if you are using a wireless LAN card) for additional information on how to configure these settings.

Introduction (continued)

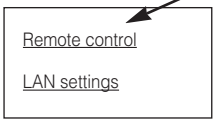
Next, let's make sure that your PC and the WNM80 module are communicating okay.

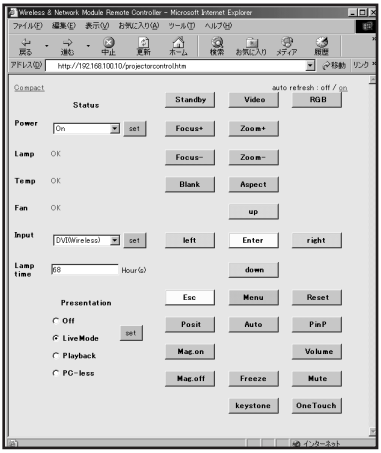
- Open your Web browser (Microsoft™ Internet Explorer®, etc.) and enter the following address:
  http://192.168.100.10/projectorcontrol.htm
  This is the factory default setting.

If you see the Remote Control panel as shown on the right, then everything is configured okay.

NOTE

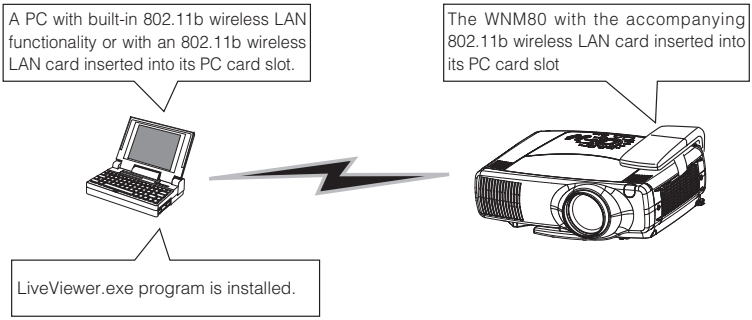
If you only enter the IP address into your Web browser's address bar, the following dialog will appear. In this case, simply click on Remote control link to bring up the Remote Control panel.





Wireless Presentations (Live Mode)

You can project the content of your PC display as is via the projector to which the WNM80 module is mounted using wireless communication. First of all, let's take a look at the basic wireless presentation operation. (Refer to 17 for additional operations.)

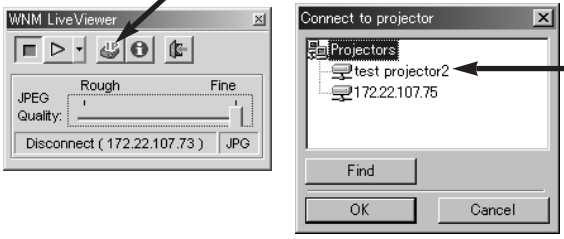

A PC with built-in 802.11b wireless LAN functionality or with an 802.11b wireless LAN card inserted into its PC card slot.
The WNM80 with the accompanying 802.11b wireless LAN card inserted into its PC card slot
LiveViewer.exe program is installed.

<Startup>

- Turn on the power of the projector (that the WNM80 module is mounted to) and then press the STANDBY button. (After a moment, the lamp comes on.)
- Press the WIRELESS button on the projector's remote control.
- The screen will appear as on the right. Use the remote controls navigation buttons to move the cursor over the Live Mode option and then press the ENTER button.

- Startup the PC.
- Open LiveViewer
  (Start -> All Programs -> WNM Utilities -> WNM LiveViewer).

(1) Click this

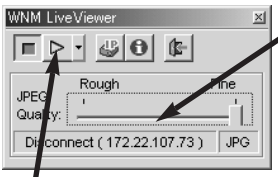


(2) Find the projector you wish to use for your presentation.
A list of projectors appears. Select the one you wish to use and the press OK.
The names of the protectors are listed as configured on the projectors themselves. If a name has not been set for a given projector, its IP address will be displayed instead.

NOTE

If you should experience a momentary interruption in communication, press the Find button again to search for a projector again.

Operations (continued)



(3) Use the JPEG Quality bar to adjust the compression level of the images you will send from your PC to the WNM80 module. The closer to Rough, the higher the level of compression will be. The quality of the image will decrease, but transfer speed will increase. The closer to Fine, the lower the level of compression will be. The quality of the image will increase, but transfer speed will decrease. For presentations that are composed of mostly of charts and illustrations, adjust to the left (Rough) side. For presentations that are composed of mostly scenic photographs and similar, adjust to the right (Fine) side.

(4) Press the Play button and then click on the X button on the top right hand corner of the dialog.
LiveViewer will begin transferring the presentation images to the WNM80 module and the dialog will disappear. However, the LiveViewer will continue to run with its icon residing in the system tray (usually located in the bottom right portion of toolbar).

At that, the images displayed on your PC monitor will be projected real time via the projector. You may now open the application (PowerPoint®, etc) that contains the images you wish to project.

NOTE

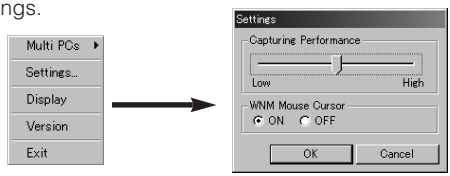
This will depend on the type of images you are attempting to display. Images are refreshed at a rate of every one to four seconds. Therefore, you might not be able to project extremely dynamic images such as animation very smoothly, and, in some cases, you may not be able to project them at all.

<What can I do if…>

- Dynamic images such as PowerPoint® animation are projected slower than they appear on my PC?
  ⇨ Try increasing the Capturing Performance priority level as follows:

Right click on the LiveViewer icon residing in the system tray.

Click on Settings.



Slide the Capturing Performance bar to High to increase the priority level.

- I want to open the LiveViewer dialog?
  ⇨ Right click on the LiveViewer icon residing in the system tray and then click on Display.

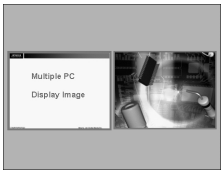
- I want to project another PC's images (i.e., turn control over to another PC)?
  ⇨ Right click on the LiveViewer icon residing in the system tray and then click on Display.
  Press the STOP button. (Communication with the projector will be terminated and a Disconnect message will appear.)
  Start LiveViewer on the PC you wish to use. (Refer to 15 for additional operation information.)

<Applied Operation: Multiple Screens>

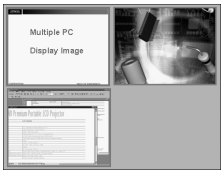
This section explains how to combine images from multiple PCs onto a single projector at the same time. You can use this function for two, three and even four PCs at a time.

NOTE

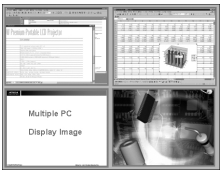
However, that images displayed using this feature will be projected at quarter of the normal size.



Two PCs at a time

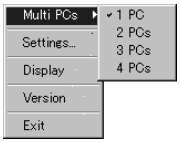


Three PCs at a time



Four PCs at a time

- Open the WNM LiveViewer on each PC. 15
- Press the PLAY button and close down the LiveViewer dialog. 16
- Right click on the LiveViewer icon residing in the system tray and then click on Multi PCs.
- Select the number of PCs you wish to use at the same time.



You can adjust this setting from any of the participating PCs. The most recent setting made is the one that is used.

- What if the number of PCs set is higher than the actual number of PCs being used?
  The images from the participating PCs are projected in the order of top left, top right, bottom left and bottom right. So, until you have connected the maximum number of PCs (four), you can continue to add additional PCs.
- What if the number of PCs set is lower than the actual number of PCs being used?
  For example, if you make the selection for four PCs and the actual number of participating PCs is four, but then you change the setting to two PCs, only the images of the two most recently connected PCs will remain, with the image from the first one of the remaining two PCs being projected on the left and the other one being projected on the right.

NOTE

In the above example, the images of the first two PCs to be connected will disappear from the screen. However, no matter what the order of display, if only one PC is selected, then its image will be displayed at full screen size.

1st PC connected	2nd PC connected
3rd PC connected	4th PC connected

Can I mark multiple screen images for playback?

Yes. Simply press the Print Screen key when the multiple screen is displayed. The complete multiple screen image will be saved in the projector's internal memory.

Operations (continued)

<Applied Operation: Distributing Images to Multiple Projectors>

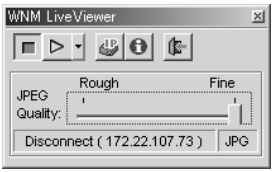
You can simultaneously distribute the images from a single PC to a multiple number of projectors(*1) (*2).

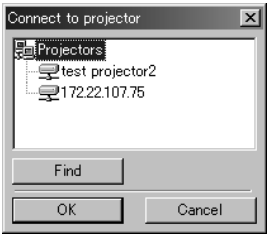
(*1): Each image from the PC is distributed in time-share fashion to each projector and then a synchronized command is issued to have each projector refresh its screen simultaneously.

(*2): The PC can connect to projectors with the same network address. However, the greater number of projectors involved, the greater delay in the image refresh rate.

- Press the PROJECTOR button from the LiveViewer dialog.
- A list of available projectors is displayed. Select the names (or as the case may be, the IP address) of the projectors you wish to use (use a left mouse click while pressing the Ctrl key to select more than one projector at a time).
- Press the PLAY button.

You are now ready to broadcast your PC screen to all the projectors you selected.





Presentation Playback (Playback Mode)

Images transmitted to the projector in Live Mode can be replayed (*1). You can also send images from the PC in advance (*2) for playback using the projector.
(Depending on the size of the images, you can usually store about 20 slides for playback).

(*1): Use the Print Screen key on your PC keyboard to capture images during Live Mode for replay in Playback mode.
(*2): Refer to 23 for detailed information on how to use FileViewer.

- Press the remote control's WIRELESS button to open the Wireless Menu.
  (Press the WIRELESS button again if the menu doesn't appear the first time.)

- Use the navigation buttons to move the cursor over Playback Mode and then press ENTER.

You can display the thumbnails of the images currently stored for playback (up to 16 images at a time).
- Select one image that you would like to playback.
- Select images in the order you would like to play them back, from first to last. (You can also set the time interval for playing back each image.)

Refer to 20 for detailed information on how to use the ImageViewer.

Stand Alone Presentations (PC-less Presentation Mode)

Be simply inserting a storage card (*3) filled with your presentation data into the WNM80 module's PC card slot, you can make a presentation without a PC.

(*3): Insert the storage card into the WNM80 module's PCMCIA card slot.
You can use any of the following types of cards: (However, depending on the manufacturer, some cards may not work.)
PCMCIA compliant memory card
CF memory card (dedicated PCMCIA adaptor required)
SD card (dedicated PCMCIA adaptor required)
Memory Stick (dedicated PCMCIA adaptor required)
HDD card (ATA compatible; less than 2GB) (IDE compatible HDD cards can't be used)
Microdrive (dedicated PCMCIA adaptor required; ATA compatible; less than 2GB) (IDE compatible HDD cards can't be used)

Since there is only one card slot, you can't use the wireless LAN card at the same time.
You can only store files of the following extensions in the storage card: .jpg, .bmp and .png.
Record the data you wish to present from your PC onto the storage card you will be using.
You can only use files located in the root directory. You can't not playback files located in a subdirectory.
You can use digital camera storage cards.
However, make sure that the files are stored in the root directory.

NOTE

Only cards under 2GB (FAT/VFAT-16) can be used. High resolution images such as those from a digital camera will likely be reduced when projected by the projector.

• Insert the storage card that contains the images you wish to display into the WNM80 module's PCMCIA card slot.

• Press the remote control's WIRELESS button to open the Wireless Menu.
(Press the WIRELESS button again if the menu doesn't appear the first time.)

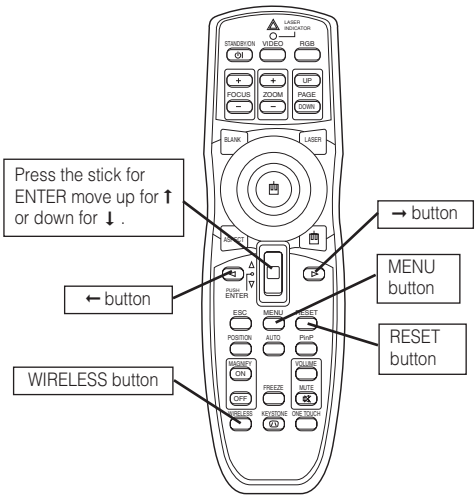
• Use the navigation buttons to move the cursor over PC less Presentation and then press ENTER.
You can display the thumbnails of the images currently stored in the storage card
(up to 16 images at a time).
  • Select one image that you would like to playback.
  • Select images in the order you would like to play them back, from first to last.
  (You can also set the time interval for playing back each image.)

Refer to 20 for detailed information on how to use the ImageViewer.

Using ImageViewer

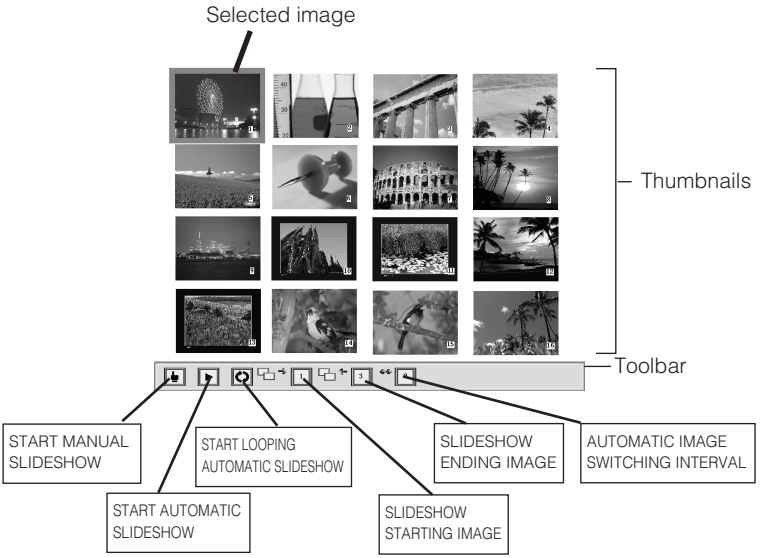
ImageViewer: A feature of the WNM80's software that allows you to view thumbnails to select images for playback. You can use the ImageViewer to do the following:

(1) Select one image at a time to view.
(2) Create a manual slideshow by arranging the images (from start to end) that you wish to display at full screen size and then manually switching between images to produce a presentation.
(3) Create an automatic slideshow by arranging the images (from start to end) that you wish to display at full screen size and then setting a time interval for automatic switching between images to produce a presentation. In addition, you can create a loop to have the presentation repeat itself for convention center demonstrations, etc.



The ImageViewer
starts up when either Playback Mode or PC-less Presentation Mode is selected.

You can operate the ImageViewer from the projector's remote control and via the remote control feature using your Web browser. 25



(1) How to select one image for full screen display

- Use the projector's remote control or operation panel cursor navigation buttons (↓, →, ↑, ←) to select the desired image and the press ENTER.
  The selected image is displayed by the projector at full screen size.
- If you press the RESET button while the image is being projected, you will return to the thumbnail view.
- If you press the RESET button during thumbnail view, the toolbar (icon selection) will appear.

(2) How to run a manual slideshow

- Press the RESET button to display the toolbar (some of the icons within the toolbar will be selectable).
- Use the left and right arrow buttons to select the SLIDESHOW STARTING IMAGE icon (←, →) and then use the up and down arrow buttons (↑, ↓) to set the starting image number.
- Use the left and right arrow buttons to select the SLIDESHOW ENDING IMAGE icon (←, →) and then use the up and down arrow buttons (↑, ↓) to set the ending image number.
- Use the left and right arrow buttons to select the START MANUAL SLIDESHOW icon (←, →) and then press ENTER to begin displaying the images at full screen size starting from the image specified as the starting image.
  Press ENTER again to switch to the next image. Continue pressing ENTER to present your slideshow. If you press ENTER when the image specified as the ending image is being displayed, the display will return to thumbnail view.
- You can return to thumbnail view at any time during your presentation by pressing RESET.
- If you press the RESET button during thumbnail view, the toolbar (icon selection) will appear.

(3) How to run an automatic slideshow

- Press the RESET button to display the toolbar (some of the icons within the toolbar will be selectable).
- Use the left and right arrow buttons to select the SLIDESHOW STARTING IMAGE icon (←, →) and then use the up and down arrow buttons (↑ , ↓) to set the starting image number.
- Use the left and right arrow buttons to select the SLIDESHOW ENDING IMAGE icon (←, →) and then use the up and down arrow buttons (↑, ↓) to set the ending image number.
- Use the left and right arrow buttons to select the AUTOMATIC IMAGE SWITCHING INTERVAL icon (←, →) and then use the up and down arrow buttons (↑, ↓) to set the desired time interval (in seconds) for presenting the images.
- Use the left and right arrow buttons to select the START AUTOMATIC SLIDESHOW icon (←, →) and then press ENTER to begin displaying the images at full screen size starting from the image specified as the starting image. Each time specified time interval elapses, the next image is displayed. This continues until the last image is reached. After the last image is displayed, the display returns to thumbnail view.
- You can return to thumbnail view at any time during your presentation by pressing RESET.
- If you press the RESET button during thumbnail view, the toolbar (icon selection) will appear.
- To loop the slideshow, use the left and right arrow buttons to select the START LOOPING AUTOMATIC SLIDESHOW icon (←, →) and then press ENTER to begin an automatic slideshow that will repeat from the beginning when it reaches the end of the show. The RESET button functions the same in this operation as explained above.

NOTE

In thumbnail view, you may notice the following error indications:

Blue X: Indicates that the file is too large to be displayed.
(Files that are 3MB or larger, or, images with a resolution higher than 2000x1500 dpi)

Red X: Indicates that the file cannot be displayed because it is corrupt or is an incompatible format.

Using FileViewer

What is FileViewer?

1. FileViewer is a program that enables you to access the projector's (WNM80 module's) RAM disk. FileViewer enables you to send image files from your PC to the projector as well as retrieve image files stored on the projector to your PC.

NOTE: The RAM disk is the temporary storage disk used to store image files transferred from your PC during Live Mode as well as those files you transfer from your PC using FileViewer.

2. FileViewer can likewise be used to access the storage card inserted into the projector (WNM80 module). FileViewer enables you to send image files from your PC to the storage card as well as retrieve image files stored on the storage card to your PC.

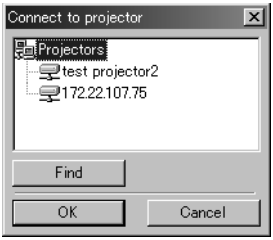
NOTE

Be sure to a cable-based LAN connection to your PC when using the WNM80 module's storage card. You can't use the storage card and wireless LAN card at the same time.

1. Open FileViewer to access the files in the projector.
   FileViewer handles the same as Windows® Explorer®.

   • From the toolbar, press File and then Connect to display the dialog and then press Find.

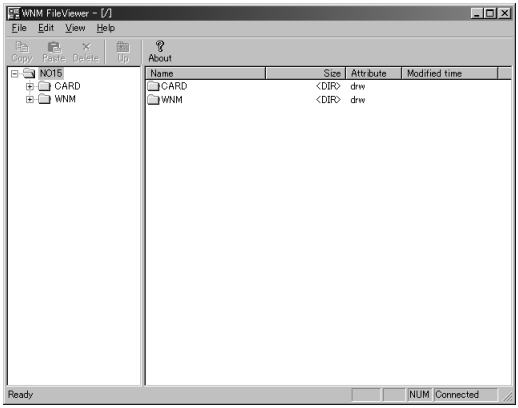
   • A list of available projectors is displayed. Select a projector and then press OK.



As shown on the right, the projector's images files and folders are displayed.

To delete an image file, select the file you wish to delete and then press Delete.

To transfer an image file from the projector to a folder on your PC, open Windows® Explorer®, select the file you wish to transfer from the projector, copy it and then paste it in the desired PC folder.
You can also transfer a file from the projector by selecting a file from the projector and then dragging and dropping it to the desired PC folder.



To transfer an image file from your PC to a folder on the projector,
- Open Windows® Explorer®,
- Select the file you wish to transfer from your PC, copy it and then paste it in the desired projector folder.

You can also transfer a file from your PC by selecting a file from the your PC and then dragging and dropping it to the desired projector folder.

FileViewer Toolbar Functions

File	Connect	Connect to the projector
	Exit	Exit the application
Edit	Copy	Copy the selected file to the clipboard
	Paste	Paste the file currently stored on the clipboard
	Delete	Deleted the selected file
	Modify	Change the name of the selected file
	New Folder	Create a new folder
	Up Folder	Move up one folder
View	Tool Bar	Display/hide the toolbar
	Status Bar	Display/hide the status bar
	Refresh	Refresh the folder's contents
Help	Version Information	Display version information

Copy	Copy the selected file to the clipboard
Paste	Paste the file currently stored on the clipboard
Delete	Delete the selected file
Up Folder	Move up one folder
About	Display version information

Controlling the Projector via Your Web Browser

You can use your Web browser to remote control the projector once the WNM80 module is properly configured and connected to your PC via the wireless LAN card or by a cable-base LAN connection.

NOTE

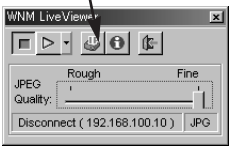
Do not attempt to control the projector with the projector's remote control and via your Web browser at the same time. Attempting to do so may result in a projector error.

How to Use the Remote Control Panel

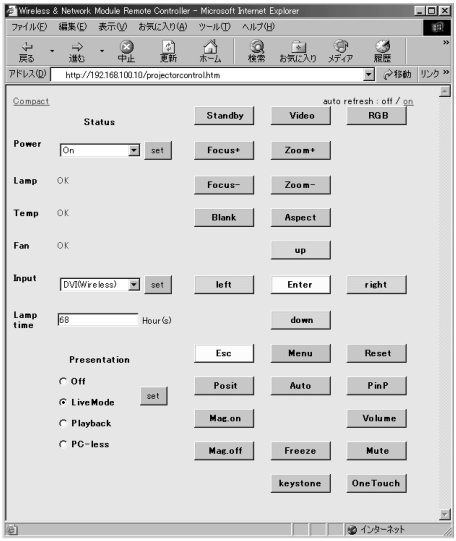
1. Open your Web browser (Microsoft™ Internet Explorer®, etc.) and enter the following address:
   http://192.168.100.10
   Enter the IP address you configured the WNM80 module.
2. Open LiveViewer.

PROJECTOR button

Click on the PROJECTOR button. A list of available projectors will be displayed. Right click on the projector you wish to control and then select Remote Controller.



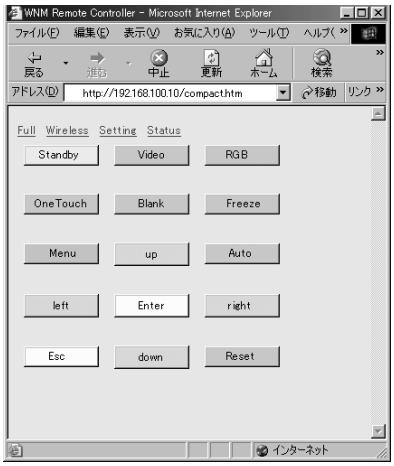
The WNM Projector Remote Controller panel will be displayed as shown below.
Click on Compact to display the links to the four main menus
<Compact Setting Status Wireless>.
A description of each of these menus can be found on the following pages.



Operations (continued)

The Compact Menu

The Compact menu contains the most frequently used functions and is compactly designed so that you can use it from your PDA as well as PC.
Each button functions the same as the corresponding buttons on the projector's remote control. (Refer to your projector's user guide for details.)



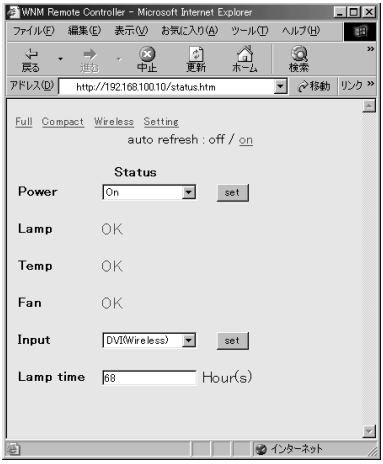
The Setting Menu

The function buttons contained in the Setting menu function just like corresponding buttons on the projector's remote control. (Refer to your projector's user guide for details.)

WNM Remote Controller - Microsoft Internet Explorer
ファイル(F) 編集(E) 表示(V) お気に入り(A) ツール(T) ヘルプ(H)
戻る 進む 中止 更新 ホーム 検索
アドレス(D) http://192.168.100.10/setting.htm
移動 リンク
Full Compact Wireless Status
Fcs.+ Zm.+ M.on Kstn.
Fcs.- Zm.- M.off Apct.
Mute Vol. PinP Pos.
Ent. up Rst. Menu
left down right Auto Esc
インターネット

The Status Menu

The Status menu is used to monitor the projector's status.



[Power] Indicates the power status.
Standby: The projector is in standby state (projector lamp off).
ON: The projector's power is on (projector lamp on).

> To alter the projector's power state, press the ▼ button to select the desired state and then click the set button.

[Lamp] Indicates if there is a projector lamp error or not.
OK: There are no errors.
Change the Lamp: Time to replace the projector's lamp. Replace the projector's lamp.
Cover Open: The projector lamp's cover is open. Close the cover.
Error: The lamp isn't on and is in an error state. Contact your local service representative.

[Temp] Indicates the status of the projector's internal temperature.
OK: The temperature is fine.
Warning: The projector's filter is dirty. Clean the filter. Replace the filter if necessary.
Error: The temperature is abnormally high.
If this error persists even after you replace the filter, contact your local service representative.
Failed: The projector has most likely broken down.
Contact your local service representative.

[FAN] Indicates the status of the projector's internal fan.
OK: The fan is fine.
Error: The fan has errored out. Check for foreign objects in the fan.
If the fan is free from foreign objects, contact your local service representative.

[Input] Indicates the currently selected video source.
RGB RGB2 Component DVI S-Video Composite

> To alter the video source, press the ▼ button to select the desired video source and then click the set button.

[Lamp time] Indicates the amount of time the lamp has been in running (in hours).

[auto refresh] If this is set to on, the WNM80 module will automatically check the projector's status every 30 seconds.
If this is set to off, the WNM80 module will only check the projector's status one time (when this dialog is first opened).
So, for example, if you set this to off, and then use the remote control to toggle the video input state, this dialog will not automatically reflect the change.

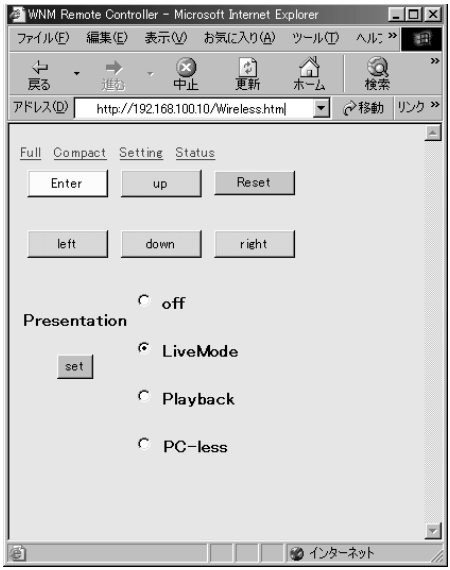
The Wireless Menu

The Wireless menu enables you to check and set the WNM80 module's operation mode.
In addition, when the WNM80 module is in Playback or PC-less Presentation mode, you can use this menu to control the WNM80 module.

NOTE

However, please note that you will need to use a cable-based LAN connection to use the Wireless menu to remote control PC-less Presentation mode operations. You can't use the wireless LAN card to create a wireless connection.

- Setting the Operation Mode
  Simply click on the radio button of the desired operation mode and then click on set.



Configuration Utility

You can use your Web browser (Microsoft™ Internet Explorer®, etc.) to check and configure the WNM80 module's network settings.

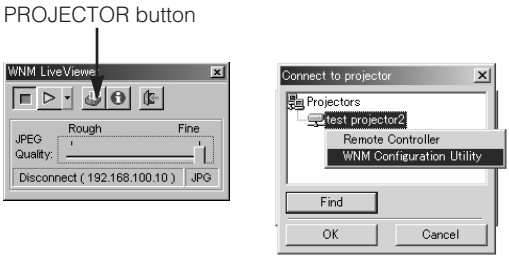
NOTE

Please note that after making any changes to the WNM80 module's network settings, you will need to turn the AC power of the WNM80 module off and then on again to have the settings take effect. Even if you make changes using the Configuration Utility and then reopen this panel, the displayed information will still not have taken effect yet.

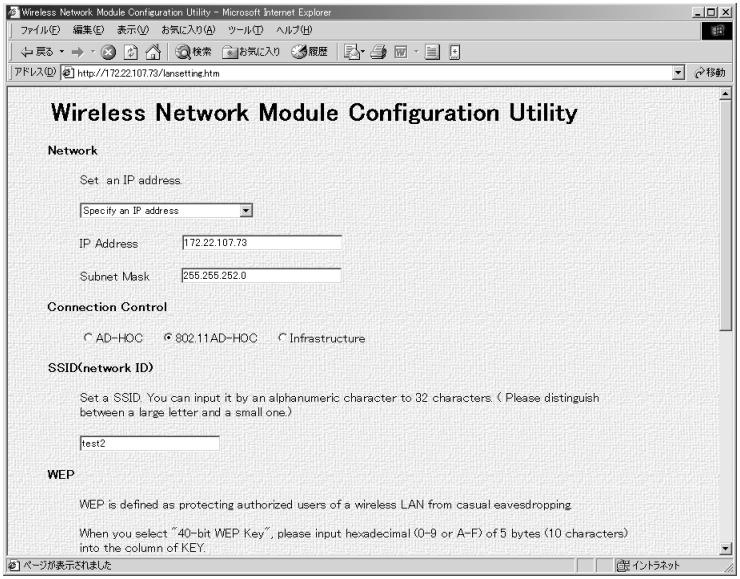
How to Use the Configuration Utility

Open LiveViewer.

Click on the PROJECTOR button. A list of available projectors will be displayed. Right click on the projector you wish to control and then select WNM Configuration Utility.



The following panel will be displayed.


Wireless Network Module Configuration Utility - Microsoft Internet Explorer
http://172.22.107.73/lansetting.htm
Wireless Network Module Configuration Utility
Network
Set an IP address.
Specify an IP address
IP Address
172.22.107.73
Subnet Mask
255.255.252.0
Connection Control
AD-HOC
802.11AD-HOC
Infrastructure
SSID(network ID)
Set a SSID. You can input it by an alphanumeric character to 32 characters. (Please distinguish between a large letter and a small one.)
test2
WEP
WEP is defined as protecting authorized users of a wireless LAN from casual eavesdropping.
When you select "40-bit WEP Key", please input hexadecimal (0-9 or A-F) of 5 bytes (10 characters) into the column of KEY.

[Set an IP address]
Use this to configure the WNM80 module's IP address and subnet mask.
Specify an IP address: If you select this option, the values you set in the IP Address and Subnet Mask fields will be used.
Obtain an IP address automatically: If you select this option, the IP address and subnet mask will be obtained automatically from the DHCP server.

NOTE
If you select Obtain an IP address automatically, but there is not a DHCP server, then the specified values will be used.

[Connection Control]
Use this to specify the communication connection control method to use between the PC and projector. Match to your PC's settings.
Choose from either AD-HOC, 802.11AD-HOC of Infrastructure.

[SSID (Service Set ID)]
This ID is used to determine which devices are participating in the network when an access point is in place. The default setting is default. In addition to single-byte alphanumeric characters and spaces, you may also use the following symbols. The length of the ID can be up to 32 characters long:
! " # $ % & ' ( ) = @ \ ? < > _ , . * + - / | [ ] { } ; :

NOTE
You can also use the menu of the projector (that the WNM80 module is mounted to) to confirm the SSID. However, when you use that menu you can only view 16 characters at a time. Also, please don't set the SSID to all spaces.

[WEP (Wired Equivalent Privacy)]
The communication data encryption method to be used.
- Disable: No encryption used.
- Enable: The key defined in KEY will be used to encrypt the communication data.

[KEY]
The key used for encrypting the communication data. Set this to the same setting used on your PC.
- If 40bit encryption is used: 10 hexadecimal characters (0-9, a-f characters only)
- If 128bit encryption is used: 26 hexadecimal characters (0-9, a-f characters only).

[Communication Channel]
Use this to specify the channel when using a wireless LAN connection.
(Channels 1 to 11 are available)

NOTE
Depending on the country you are in, the channels you can use may vary. In addition, depending on the country or region you are in, you may be required to use a wireless LAN card that confirms to the standards in force in the respective country or region.

[Communication Speed]

Use this to specify the communication speed.

1Mbps, 2Mbps, 5.5Mbps, 11Mbps or AUTO

Normally, setting to AUTO should present no problems. However, if you are experiencing difficulties due to distance and/or obstructions, you might want to try a low speed setting.

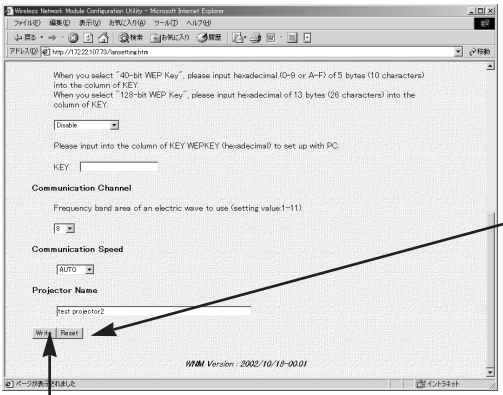
[Projector Name]

Use this to specify the name of the projector (that the WNM80 module is mounted to). (This will actually be stored on the WNM80 module, not the projector.) Should there be multiple projectors, this name will be helpful for distinguishing between projectors in LiveViewer. In addition to single-byte alphanumeric characters and spaces, you may also use the following symbols. The length of the name can be up to 255 characters long:

! " # $ % & ' ( ) = @ \ ? < > _ , . * + - / | [ ] { } ; :

NOTE

You can also use the menu of the projector (that the WNM80 module is mounted to) to confirm the projector name. However, when you use that menu you can only view 16 characters at a time.


When you select "40-bit WEP Key", please input hexadecimal (0-9 or A-F) of 5 bytes (10 characters) into the column of KEY.
When you select "128-bit WEP Key", please input hexadecimal of 13 bytes (26 characters) into the column of KEY.
Disable
Please input into the column of KEY WEPKEY (hexadecimal) to set up with PC.
KEY
Communication Channel
Frequency band area of an electric wave to use (setting value:1-11).
6
Communication Speed
AUTO
Projector Name
test projector2
Write
Reset
WNM Version : 2002/10/18-0001

Press Reset to restore the current settings.

Once you have completed configuring the network settings, press Write. If the following message appears, you will know that the settings have been successfully changed. (However, you need to turn the WNM80 module off and then on again for the new settings to take effect.)

Wireless Network Module Configuration Utility - Microsoft Internet Explorer
http://172.22.107.73/success.html
WNM80 network settings were successfully changed.

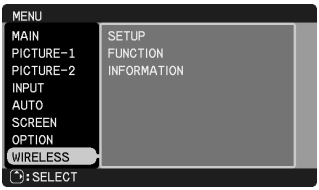
However, if the following message appears, your attempt to change the settings has failed. Should this occur, check the communication status with the WNM80 module.

Wireless Network Module Configuration Utility - Microsoft Internet Explorer
http://172.22.107.73/failed.html
ERROR! Attempt to change WNM80 network settings has failed!

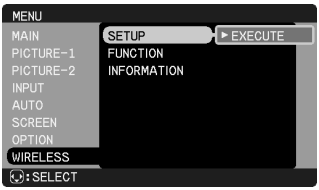
Changing Network Settings Directly from the WNM80 Module

The WNM80 module is equipped with network technology that allows you to configure it to the function you wish to use. (Refer to Operations for more details.) When you first use the WNM80 module, it will be configured to the factory defaults. You can use the Configuration Utility (see 29) for configuring the network settings, however, this section covers the procedures for using just the WNM80 module (mounted on the projector) to configure and confirm a portion of the network settings.

(1) Open the WIRELESS menu. (Refer to the projector's user guide as necessary.) Using either the remote control or projector's operation panel,
- Press the MENU button
- Once the menu appears, use the ↓ button to scroll down to WIRELESS.



(2) Press the → button.

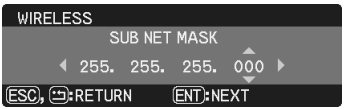


(3) Press the → button.
Likewise, for the remaining configurable items as well, use the cursor navigation buttons to make the desired setting and use the ENTER button to the next step and the ESC button to the previous step.

(4) [IP ADDRESS]

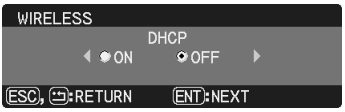
Indicates the WNM80 module's current IP address.
The IP's factory default setting is 192.168.100.10.
An IP address is a unique numeric address used to identify each network device.
Please note that each device in the same network must have a unique IP address.
You may not have two devices on the same network with the same IP address.

(5) [SUBNET MASK]



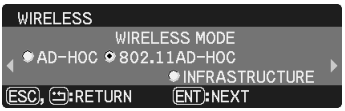
The network address portion of the IP address.
The factory default is 255.255.255.0.
In the example shown here, the network address is 192.168.100.0.
Please configure this to the same network address used by your PC.

(6) [DHCP (Dynamic Host Configuration Protocol)]



This setting is used to determine whether to have this device's IP address assigned automatically by the network's DHCP server or to assign the IP address manually. The factory default is to leave this setting "OFF" and assign the IP address manually. If this setting is set to "ON," the DHCP server will automatically assign an IP address to this device and so the manually set IP address will be ignored.

(7) [WIRELESS MODE]

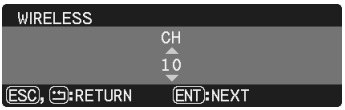


Sets the communication mode to be used for wireless communication.
The factory default setting is 802.11 AD-HOC.
AD-HOC or 802.11 AD-HOC: You can use either of these when you will only be connecting the WNM80 module and your PC. Configure it so that the settings match your PC settings. This is usually the connection type used for one-to-one connections between the WMN80 module and a PC. However, the WNM80 module is capable of recognizing up to four PCs at a time.
INFRASTRUCTURE: Use this setting when you will be connecting the WNM80 module to your network via an access point to connect to a PC (connection to multiple PCs possible in this mode).

NOTE

Consult with your network administrator before connecting to an existing access point in your network.

(8) [CH (Channel)]



The wireless LAN (IEEE802.11b) device can communicate on channels 1 to 11. The factory default is channel 10. If you are using an access point, configure the channel setting to the channel specified by the access point. If you aren't using an access point, configure the channel setting to the PC you are using.

(9) [WEP Mode (Wired Equivalent Privacy)]

An encryption method used for wireless communication. The factory default is OFF.
OFF: Encryption will not be used.
40bit: A 10-character (hexadecimal) encryption key will be used.
128bit: A 26-character (hexadecimal) encryption key will be used.

(10) [Do you want to save the changes?]

Select YES and press ENTER to apply the changes. Select NO and press ENTER if you don't wish to apply the changes.

If you choose to apply the changes (by selecting YES followed by ENTER), the following message will appear for about three seconds and then the changes will be saved.
Please note that the changes will be immediately reflected in the network configuration.

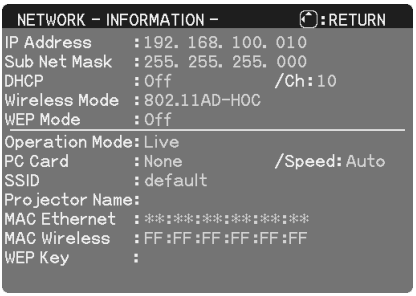
If your attempt to save the changes has failed, the following message will appear. Should this occur, please try to save the changes again.

NOTE

The following items cannot be configured using this menu.
For more information on configuring these items, please refer the Configuration Utility on 29.
WEP Key (encryption key), SSID (network group name), Projector Name (name of the WNM80 module's host projector), Speed (communication speed)

(11) [NETWORK INFORMATION Screen]

If you return to step 2 and scroll down using the ↓ button to choose INFORMATION, the following screen will appear.

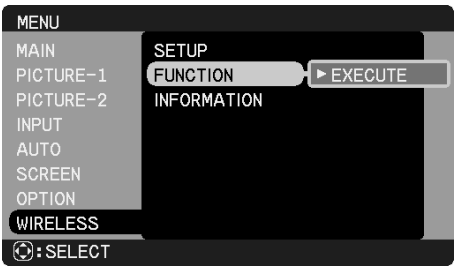


NOTE

Sometimes the content updated using the Configuration Utility won't be reflected in the NETWORK INFORMATION screen. Should this be the case, turn off the projector (to which the WNM80 module is mounted) and then turn it on again.

[Confirming and Changing the WNM80 Module Operation Mode]

If you return to step 2 and scroll down using the ↓ button to choose FUNCTION, and then press the → button, the WNM80 module operation mode menu (Wireless Menu) will appear.



WNM80 Module Operation Mode Menu

Additional Items

Troubleshooting

Problem			Likely Cause	Things to Check	Reference Page Number
No image			The projector's power isn't on	Is the projector's lamp on?	7
			The projector's input source isn't switched to DVI	Is the projector switched to DVI?	7
			The module isn't properly connected to the projector	Are the locking screws securely fastened?	6
			The module's power cable isn't properly connected to the projector	Is the module's power cable firmly connected to the projector?	6
Wireless	Live Mode	The projector that you want to connect to is nowhere to be found on the list of available projectors	The PC and/or projector's network settings are not configured correctly	Check both the PC and projector's network settings. If you change the projector's settings, turn off the projector's AC power and then turn it on again. If you simply put the projector in STANDBY power mode and then turn it on again, the new settings might not take effect.	12
			Weak radio signal	• Bring the PC and projector closer together • Radio waves won't go through concrete and metal (steel doors, etc.)	–
		Can't communicate	The module isn't in Live Mode	Press the WIRELESS button on the projector's remote to make sure that it is in the correct mode	15
		The image projected is rather slow compared to that of the PC	The WNM80 modules isn't capable of relaying dynamic images such as PowerPoint® animation at full speed	Try increasing the Capture Performance priority level. It may improve the speed a little	16
			The compression rate being used for transferring the images is too low	Try setting the image compression to "Rough." The resolution will drop in quality, but it may help improve the speed	16
		Lots of interference in the images	The compression rate being used for transferring the images is too high	Try setting the image compression to "Fine." • You may experience a drop in speed	16

Additional Items (continued)

Problem			Likely Cause	Things to Check	Reference Page Number
Wireless	Playback Mode	Can't communicate	The module isn't in Playback Mode	Press the WIRELESS button on the projector's remote to make sure that it is in the correct mode	19
		The images from the recently executed Live Mode are gone	You didn't mark the images during your Live Mode presentation	Press Print Screen (on your PC keyboard) during Live Mode for each image you want to playback in Playback Mode	3,19
		The images you marked don't appear	The 8MB limit was exceeded (image size depends on content)	The projector's RAM disk is limited to 8MB. Use FileViewer to check the image volume currently stored in the projector	23
	Can't communicate		The wireless LAN card isn't inserted into the module or the memory card is still inserted	Insert the wireless LAN card that came with your WNM80 module into the module	11
Wired LAN	Can't communicate		The PC and/or projector's network settings are not configured correctly	Check both the PC and projector's network settings	12, 29, 32
			You didn't use a cross cable to directly connect the PC to the module	Straight cables are normally used to connect computers to the network, but when you connect your PC directly to the module, you need to use a cross cable	3
			The wireless LAN card is inserted into the module	Remove the wireless LAN card from the WNM80 module's PCMCIA slot (you can't use both wireless and wired LAN connections at the same time)	4

Specifications

Product Name			Wireless Network Module
Model			WNM80
Network-related	Wireless LAN	Modulation Method	IEEE802.11b compliant (when using the PCMCIA wireless LAN card)
		Communication Mode	AD-HOC, 802.11 AD-HOC, INFRASTRUCTURE
		Communication Speed	1Mbps, 2Mbps, 5.5Mbps, 11Mbps
		Frequency Band	2400 to 2475MHz with 11 operating channels
		Encryption	WEP (OFF/40bit/128bit)
	Wired LAN	Modulation Method	IEEE802.3 compliant (10BASE-T/100BASE-TX)
	Protocol		TCP/IP
	Supported Functions		HTTP server, DHCP client
	Data Processing Method		JPEG, PNG, BMP
Video Output			Digital RGB (equivalent to XGA)
Connectors	Video Output		DVI-D port (one)
	Wireless LAN Card and Storage Card Compatibility		PCMCIA Type II slot (one)
	Ethernet		RJ-45 (100BASE-TX) port (one)
	Power/Control		Mini-DIN7P
Power Supply			5VDC, 3.3VDC
Power Consumption			8W (when using the wireless LAN card)
Operating Temperature Range			5 to 35°C
Outer Dimensions (HxWxD)			137x71x223mm (including protrusions)
Weight			Approximately 660g

Additional Items (continued)

If a problem occurs with the equipment, first refer to the 35 “Troubleshooting” section and run through the suggested checks. If this does not resolve the problem contact your dealer or service company. They will tell you what warranty condition is applied.

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